

1. A data storage system comprising:

a first storage system at a customer premises that is configured to receive individual data files from a customer system, and on an individual file-by-file basis substantially in real time from receiving each of the individual data files, to determine

5 individual file types for the individual data files and transfer the individual data files based on the individual file types determined for the individual data files;

a second storage system configured to receive and store the individual data files on the individual file-by-file basis, and to subsequently form blocks of data including the individual data files, and transfer the blocks of data;

10 a third storage system configured to receive and store the blocks of data to store the individual data files;

a bonded time division multiplex connection configured to transfer the individual data files from the first storage system to the second storage system on the individual file-by-file basis; and

15 an internet protocol connection configured to transfer the blocks of data from the second storage system to the third storage system.

2. The data storage system of claim 1 wherein the customer system is configured to maintain a first version of the individual data files, the second storage system is

20 configured to maintain a second version of the individual data files, and the third storage system is configured to maintain a third version of the individual data files, so that three versions of the individual data files are simultaneously maintained at three geographically diverse locations.

3. The data storage system of claim 1 wherein the second storage system is less than 20 miles from the customer premises.
4. The data storage system of claim 1 wherein the second storage system is less than 50 miles from the customer premises.
5. The data storage system of claim 1 wherein the third storage system is greater than 50 miles from the customer premises.
- 10 6. The data storage system of claim 1 wherein the third storage system is greater than 200 miles from the customer premises.
- 15 7. The data storage system of claim 1 further comprising a customer management system at the customer premises that is linked to the second storage system and the third storage system and that is configured to receive customer instructions, and in response, to modify data storage capacity at the second storage system and the third storage system and modify communications capacity on the bonded time division multiplex connection and the internet protocol connection.

8. The data storage system of claim 1 further comprising a customer management system at the customer premises that is linked to the second storage system and that is configured to receive customer instructions, and in response, to assign priorities that the individual data files have to block transfer between the second storage system and the third storage system.

9. The data storage system of claim 1 wherein the first storage system is a Network Attached Storage (NAS) system and is not a Storage Area Network (SAN) switch.

10. The data storage system of claim 1 wherein the first storage system transfers the individual data files to the second storage system on the individual file-by-file basis and not on a block-by-block basis.

11. A method of operating a data storage system, the method comprising:

in a first storage system at a customer premises, receiving individual data files from a customer system, and on an individual file-by-file basis in substantially real time from receiving each of the individual data files, determining individual file types for the individual data files and transferring the individual data files based on the individual file types determined for the individual data files over a bonded time division multiplex connection;

in a second storage system, receiving and storing the individual data files on the individual file-by-file basis, and subsequently forming blocks of data including the individual data files, and transferring the blocks of data over an internet protocol connection; and

in a third storage system, receiving and storing the blocks of data to store the individual data files.

12. The method of claim 11 wherein the customer system maintains a first version of the individual data files, wherein storing the individual data files in the second storage system comprises maintaining a second version of the individual data files, and wherein storing the individual data files in the third storage system comprises maintaining a third version of the individual data files, so that three versions of the individual data files are simultaneously maintained at three geographically diverse locations.

13. The method of claim 11 wherein the second storage system is less than 20 miles from the customer premises.

14. The method of claim 11 wherein the second storage system is less than 50 miles from the customer premises.

15. The method of claim 11 wherein the third storage system is greater than 50 miles
5 from the customer premises.

16. The method of claim 11 wherein the third storage system is greater than 200 miles from the customer premises.

10 17. The method of claim 11 further comprising, in a customer management system at the customer premises that is linked to the second storage system and the third storage system, receiving customer instructions, and in response, modifying data storage capacity at the second storage system and the third storage system and modifying communications capacity on the bonded time division multiplex connection and the internet protocol
15 connection.

18. The method of claim 11 further, in a comprising a customer management system at the customer premises that is linked to the second storage system, receiving customer instructions, and in response, assigning priorities that the individual data files have to
20 block transfer between the second storage system and the third storage system.

19. The method of claim 11 wherein the first storage system is a Network Attached Storage (NAS) system and is not a Storage Area Network (SAN) switch.

20. The method of claim 11 wherein the first storage system transfers the individual data files to the second storage system on the individual file-by-file basis and not on a block-by-block basis.